



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: U.S. Commissioner of Patents and Trademarks
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09-610,237	07/05/2000	Michael N. Grimbergen	2813.D1/SILICO/JB	5355

7590

11/28/2001

Patent Counsel
Applied Materials Inc
P.O. Box 450-A
Santa Clara, CA 95052

EXAMINER

LUND, JEFFRIE ROBERT

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 11/28/2001

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/610,237		GRIMBERGEN ET AL.	
	Examiner		Art Unit	
	Jeffrie R. Lund		1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-88 is/are pending in the application.
- 4a) Of the above claim(s) 21-25 and 39-88 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-16, 19, 20 and 26-36 is/are rejected.
- 7) ☐ Claim(s) 10, 11, 17, 18, 37 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 05 July 2000 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2, 4, 6, 9</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-20, and 26-38, drawn to a window with a mask, classified in class 118, subclass 713.
 - II. Claims 21-25, 59-64, and 74-84, drawn to a window with an aperture, classified in class 118, subclass 713.
 - III. Claims 39-41, drawn to a method of processing a substrate using a mask, classified in class 216, subclass 59.
 - IV. Claims 42-52, drawn to method of processing a substrate using a mask with a magnetic field, classified in class 216, subclass 59.
 - V. Claims 53-58, drawn to a method of processing a substrate using a mask with an electric field, classified in class 216, subclass 59.
 - VI. Claims 65-73, drawn to a wall with a tilted portion, classified in class 118, subclass 713.
 - VII. Claims 85-88, drawn to a method for processing a substrate using a window with an aperture, classified in class 216, subclass 59.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions III and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP §

Art Unit: 1763

806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as a process that does not use radiation to control the process, such as a timed process.

3. Inventions VII and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as a process that does not use radiation to control the process, such as a timed process.

4. Inventions I-VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation and different effects.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Ashok K. Janah on November 6, 2001 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-20, 26-38. Affirmation of this election must be made by applicant in replying to

Art Unit: 1763

this Office action. Claims 21-25 and 39-88 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 claims a range of 0.25:1 to 12:1 and depends on claim 15, which claims a range of 1:1 to 12:1. Claim 16 is indefinite in that part of the second range is not included in the first range of claim 15, i.e. 0:25 to about 1:1.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

Art Unit: 1763

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. Claims 1, 2, 4, 8, 9, 12, 13, 14, 19, 20, 26, 27, 29, 32, 33, 35, and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tamura et al, US Patent 5,074,985.

Tamura et al teaches the claimed invention in the drawings and throughout the specification.

12. Claims 1, 2, 4, 8, 9, 12, 13, 14, 19, 20, 26, 27, 29, 32, 33, 35, and 36 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by DeOrnellas et al, US Patent 6,006,694.

DeOrnellas et al teaches the claimed invention in the drawings and throughout the specification.

13. Claims 26, 27, 29, 32, and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hunt, US Patent 3,170,383.

Hunt teaches the claimed invention in figure 2.

14. Claims 26, 27, 29, 32, and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kondo, JP 62-042514.

Kondo teaches the claimed invention in the abstract and figures 1 and 2.

15. Claims 26, 27, 29, 32, 35, and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Oshida et al, JP 9-126991.

Oshida et al teaches the claimed invention in the specification (paragraph 26) and figure 4.

Art Unit: 1763

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 3, 5, 6, 7, 15, 16, 28, 30, 31, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al.

Tamura et al teaches a processing system that includes: a support for supporting a substrate 1; an exhaust system and gas distributor (not shown column 4 lines 65-67); a gas energizer 10; a wall 6 comprising a radiation transmitting portion; and a mask 3. The mask has an aspect ratio that is sufficiently large to reduce the access of process gas to the radiation transmitting portion.

Tamura et al differs from the present invention in that Tamura et al does not teach a specific aspect ratio, size, or shape of the mask.

The specific aspect ratio, size, and shape of the mask are obvious design limitations. One of ordinary skill in the art would be motivated to design the aspect ratio, size, and shape of the mask to provide the desired protection to the window.

Furthermore, it has been held in: *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), by the Federal Circuit that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the

Art Unit: 1763

claimed device was not patentably distinct from the prior art device; and that a change in shape is a matter of choice which a person of ordinary skill in the art would have found obvious. (See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)). (See MPEP 2144.04(d))

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to select or optimize the specific aspect ratio, size, and shape of the mask of Tamura et al.

Allowable Subject Matter

17. Claims 10, 11, 17, 18, 37, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: the electric field source that couples electric energy to the radiation transmitting portion of claims 10, 17, and 37; and the magnetic field source adapted to provide a magnetic flux across the radiation transmitting portion of claims 11, 18, and 38 were not found in or suggested by the art.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art teaches the technological background of the invention. The cited art contains patents that could be used to reject the claims under 35 USC § 102 or 103. These rejections have not been made because they do not

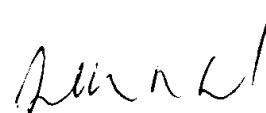
Art Unit: 1763

provide any additional or different teachings, and if they were applied, would have resulted in an undue multiplication or references. (See MPEP 707.07(g))

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (703) 308-1796. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeffrie R. Lund
Primary Examiner
Art Unit 1763

JRL
November 13, 2001